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Attorney Docket: 420.49867
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: DR. ALEXANDER KNOLL
Serial No.: 09/852,292 Group Art Unit: 2674
Filed: MAY 10, 2001 Examiner: Abdulsalam, Abbas I
Title: FLIGHT CONTROL DISPLAY

AMENDMENT UNDER 37 C.F.R. §1.111 IN
ACCORDANCE WITH A PETITION TO REVIVE

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

SEP 17 2003
OFFICE OF PETITIONS

Sir:

The following comments are addressed to the rejection of claims 1-10 under 35 U.S.C. 103 as unpatentable over the reference to Schmitt U.S. Patent 6,173,220 contained in the patent Office Action of December 10, 2002 accompanying this Response is a Petition to Revive an unintentionally abandon application.

Applicants invention, as defined by independent claim 1 concerns a flight control display useable both in a cockpit of an aircraft and in a ground station that controls an unman aircraft. According to the present invention the flight control flight display is integrated into the flight director and shows a pilot a view of his relative position in relation to a specified final approach direction without limiting the viewing ability of the display to certain aircraft positions. Using the present invention, the aircraft position relative to a desired direction or destination is shown in a full 360° view around the aircraft. When the display is used as a heads-

up display, the airspace with the final approach direction and the current flight direction as well as the general flight direction can be viewed simultaneously. This is particularly important when there is a curved approach to a runway. That is, when the direction of the plane is not directly toward the runway.

The flight control display device uses a fixed point at the center of the display, shown as item 21A in Figure 2. The display also includes an aircraft symbol 22 with a center 22a to depict the longitudinal axis and a lateral line 22b to depict the current attitude of the aircraft. Also included is a destination position symbol 23, which has a reference line 25 and a position symbol 26. The display also depicts a skyline 21 with a center point. When the aircraft rotates about the longitudinal axis by a first angle, the skyline is rotated by the first same angle relative to the aircraft symbol. Furthermore, when the destination position symbol 23 is located at a distance from the center 20 and when its reference lines 25 point to the center 20 as the reference point, the skyline is located as the reference point. Furthermore, the destination position symbol is rotated around the reference point depending on the aircraft direction relative to the desired destination direction.

All of these symbols and their indications are provided as part of the display, as claimed in independent claim 1.

The reference to Schmitt U.S. Patent No. 6,173,220 is an attitude direction indicator whose purpose is to provide small changes in pitch and roll to a pilot and to provide target approach information intuitively. Additionally, the device includes an integral directional marker.

Applicants submit that there is no showing of the center of display being a fixed point. Additionally there is no showing of an aircraft symbol with a center, which depicts a longitudinal axis and a lateral line to depict the current attitude of the aircraft. Further, there is no destination position symbol or its location and alignment with a reference. Each of these features have been acknowledged as absent from the Schmitt reference by the rejection.

According to the rejection these missing features are obvious because Schmitt has a detection element 106 configured to determine the position of the aircraft and a processor 102 which may be configured according to the rejection in a desired fashion to receive and process target and bearing data to an intended destination of the aircraft.

Applicants submit that such changes to the reference to Schmitt are not obvious because they are not foreseen as part of the display element. Each of the elements of independent claim 1 are part of the display and are coordinated with each other in the manner indicated. There is no information in Schmitt concerning the destination position signal being located with a reference line pointing to the center of the display as a reference point with the skyline being located in the

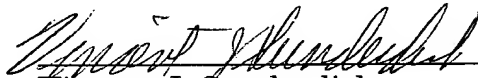
reference point. Nor is there an indication that the destination position symbol is rotated around the reference point depending on the aircraft direction relative to the desired destination. This last feature, in addition to being absent from any indication of the reference to Schmitt, is related to the purpose of the present invention which is specifically designed to be able to provide the pilot with an indication concerning the final destination and, how that destination changes with change in the aircraft position and particularly for a destination which is not in the line of sight of the aircraft. That is, it may be used in a situation depicted in Figure 1 of the present application wherein the aircraft must approach from a curved direction in order to land. This information which is part of the display is not shown or disclosed or made obvious by the reference to Schmitt.

Accordingly, Applicants respectfully request that this application, containing claims 1-10 including independent claim 1 and dependent claims 2-10 which contain all of the limitations of independent claim 1, be allowed and be passed to issue.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

September 12, 2003

Respectfully submitted,



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